

November 2000

ARM Facilities Newsletter

ANL/ER/NL-00-11



Winter Weather Outlook

With the chill of colder temperatures in the air, we can rest assured that the icy grips of winter are just around the corner. The Climate Prediction Center (CPC), a specialized part of the National Weather Service (NWS), has issued its annual winter outlook for the 2000-2001 winter season.

The CPC, located in Camp Springs, Maryland, is a government agency that focuses its predictions on Earth's climate. In comparison to the NWS forecasts of short-term weather events, the CPC goes farther into the future (from a week to seasons). The CPC conducts real-time monitoring of Earth's climate and makes predictions of climate variability over land and ocean and in the atmosphere. The CPC also evaluates the sources of major climate anomalies.

The operations branch of the CPC prepares long-range forecasts by applying dynamical, empirical, and statistical techniques. The analysis branch performs applied research to identify physical factors responsible for climate fluctuations. The two

branches work jointly to test new forecast methods and models, with the goal of improving model output. The CPC also evaluates the outlook for floods, droughts, hurricanes, ozone depletion, and El Niño and La Niña environments.

So, what is the CPC outlook for winter 2000-2001? For the most part, winter weather will return to "normal" this season, because the El Niño and La Niña anomalies that shaped our past three winters have dissipated. Normal winter weather statistics are based on data for 1961-1990. The strong influence of the sea surface temperature in the tropical Pacific Ocean during an El Niño or La Niña episode, which makes it easier for forecasters to predict the trend for weather events, has given way to more neutral conditions.

This winter, we should be prepared for swings in temperature and precipitation. The CPC is forecasting a more normal winter in general. Thus, we should expect colder temperatures than during the past three winters, which were greatly influenced and warmed by La Niña conditions.

ARM Facilities Newsletter is published by Argonne National Laboratory, a multiprogram laboratory operated by The University of Chicago under contract W-31-109-Eng-38 with the U.S. Department of Energy.

Technical Contact: Douglas L. Sisterson

Editor: Donna J. Holdridge

Winter 2000-2001

(vs. 1998-2000)

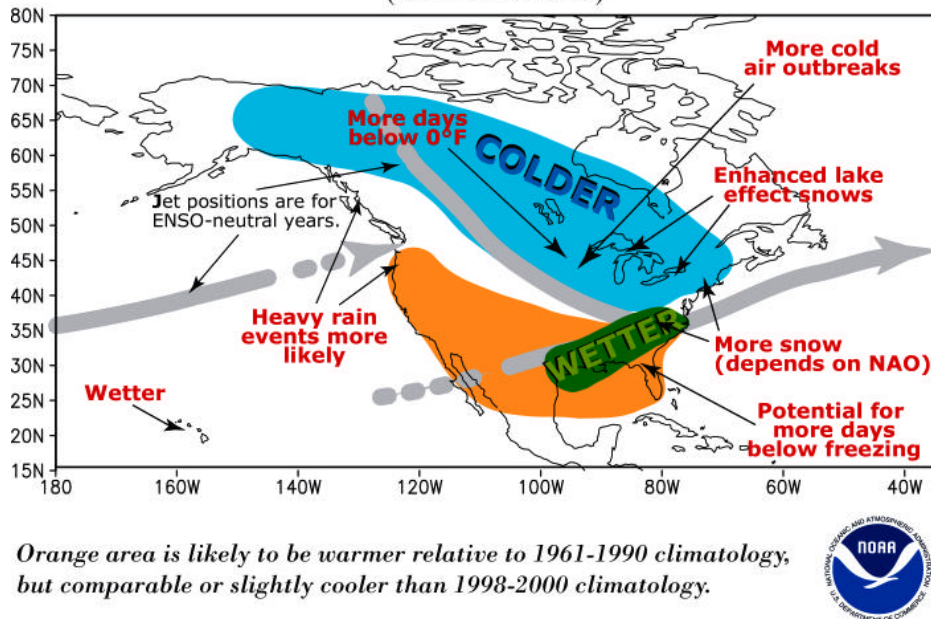


Figure 1. The Climate Prediction Center's winter outlook for 2000-2001, as compared to the past three winter seasons. (Source: National Oceanic and Atmospheric Administration.)

Regionally, the Northeast will have a greater chance for snow, and temperatures could average 4°F colder than last year. The Plains and Midwest will have normal winter temperatures, averaging 5-6°F colder than last year, with the potential for many more days below zero. In the Southeast, temperatures will average warmer than normal but slightly cooler than in the past three years. Gulf Coast states (except Florida) should receive more precipitation than normal. The West and Southwest will experience warmer-than-normal temperatures. The Pacific Northwest will encounter more days with heavy rain, but precipitation amounts will be near normal. Alaska will have near-normal temperatures and precipitation, while Hawaii will be wetter than normal.

According to the CPC, better predictions of extreme climate episodes, such as floods and droughts, could save the United States billions of dollars in damage costs. The CPC reports that the

forecast for winter 1997-1998, based on El Niño conditions, saved Californians \$0.5-1 billion, because they were able to plan six months in advance for the heavy rains they received. Climate forecasts allow water, energy, and transportation administrators, as well as farmers, to plan ahead and avoid certain losses due to climate extremes. Research using data collected at the ARM CART sites aids the work being done by the CPC and others in the effort to improve our environment and decrease the effect of climate variability on society.

On the Internet

You can find all of the CPC forecasts on the CPC web site, at this location:

<http://www.cpc.ncep.noaa.gov>

The National Weather Service web site is located at:

<http://www.nws.noaa.gov>